

ABSTRACT

A non-fragmenting pressure relief apparatus includes a rupture disc having a central bulged or flat section and a peripheral flange portion. Certain embodiments of the invention have a butterfly shaped element having two wing panels attached to the underside of a rupture disc of the apparatus. A line of weakness of major length extends around the periphery of the central section of a disc and C-shaped end region lines of weakness in the wing panels, which define a hinge portion of the disc therebetween, first converge and then diverge from one another, and connect with the major line of weakness. Application of an overpressure to the rupture disc apparatus causes the entire line of weakness to sever including the end region lines of weakness whereby divergence of the opening force at the hinge portion of the disc prevents separation of the central section of the disc from the peripheral portion of the disc. In another embodiment, the butterfly shaped element is omitted and the C-shaped end region lines of weakness are provided in the central section of the disc.